

I claim:

1. A marine propulsion device, comprising:

- 5 a metallic gear housing structure;
 a polymer layer disposed on an outer surface of said gear housing structure.

2. The marine propulsion device of claim 1, wherein:

 said metallic gear housing structure is made of aluminum.

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3. The marine propulsion device of claim 1, wherein:

 said polymer layer comprises a fiber filled polymer.

4. The marine propulsion device of claim 1, wherein:

15 said polymer layer comprises a glass filled polymer.

5. The marine propulsion device of claim 1, wherein:

 said polymer layer comprises a carbon filled polymer.

20 6. The marine propulsion device of claim 1, wherein:

 said polymer layer is molded around said gear housing structure.

7. The marine propulsion device of claim 1, further comprising:

25 an adhesion promoting substance to facilitate the adhesion of said polymer
layer to an outer surface of said gear housing structure..

8. The marine propulsion device of claim 7, wherein:

said adhesion promoting substance is disposed within said polymer layer.

9. The marine propulsion device of claim 7, wherein:

said adhesion promoting substance is disposed between said metallic gear
5 housing structure and said polymer layer.

10. The marine propulsion device of claim 1, wherein:

said polymer layer is injection molded around said metallic gear housing
structure.

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11. The marine propulsion device of claim 1, further comprising:

a drive shaft housing attached to said gear housing structure, said polymer
layer being disposed on said drive shaft housing.

15 12. The marine propulsion device of claim 1, wherein:

the thermal coefficient of expansion of said metallic gear housing structure
is generally similar to the thermal coefficient of expansion of said polymer layer.

13. The marine propulsion device of claim 1, wherein:

20 said polymer layer is held in intimate contact with an outer surface of said
gear housing structure with no space therebetween.

14. The marine propulsion device of claim 13, wherein:

said polymer layer is mechanically bonded to said gear housing structure.

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15. The marine propulsion device of claim 13, wherein:

said polymer layer is chemically bonded to said gear housing structure.

16. A marine propulsion device, comprising:

a aluminum gear housing structure;

a polymer layer disposed on an outer surface of said gear housing structure, ,

5 said polymer layer being injection molded around said aluminum gear housing structure.

17. The marine propulsion device of claim 16, further comprising:

an adhesion promoting substance to facilitate the adhesion of said polymer

10 layer to an outer surface of said gear housing structure..

18. The marine propulsion device of claim 17, wherein:

said adhesion promoting substance is disposed within said polymer layer.

15 19. The marine propulsion device of claim 17, wherein:

said adhesion promoting substance is disposed between said aluminum gear housing structure and said polymer layer.

20. The marine propulsion device of claim 16, further comprising:

20 a drive shaft housing attached to said gear housing structure, said polymer layer being disposed on said drive shaft housing.

21. The marine propulsion device of claim 20, wherein:

25 the thermal coefficient of expansion of said aluminum gear housing structure is generally similar to the thermal coefficient of expansion of said polymer layer.

22. The marine propulsion device of claim 16, wherein:

said polymer layer is held in intimate contact with an outer surface of said gear housing structure with no space therebetween.

23. The marine propulsion device of claim 22, wherein:

5 said polymer layer is bonded to said gear housing structure through a plurality of holes formed through said gear housing structure.

24. The marine propulsion device of claim 22, wherein:

 said polymer layer is chemically bonded to said gear housing structure.

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25. The marine propulsion device of claim 16, wherein:

 said polymer layer comprises a glass filled polymer.

26. The marine propulsion device of claim 16, wherein:

15 said polymer layer comprises a carbon filled polymer.

27. A marine propulsion device, comprising:

 a aluminum gear housing structure;

 a polymer layer disposed on an outer surface of said gear housing structure, ,

20 said polymer layer being injection molded around said aluminum gear housing structure; and

 an adhesion promoting substance to facilitate the adhesion of said polymer layer to an outer surface of said gear housing structure..

25 28. The marine propulsion device of claim 27, further comprising:

 a drive shaft housing attached to said gear housing structure, said polymer layer being disposed on said drive shaft housing.

29. The marine propulsion device of claim 27, wherein:

the thermal coefficient of expansion of said aluminum gear housing structure is generally similar to the thermal coefficient of expansion of said polymer layer.

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30. The marine propulsion device of claim 27, wherein:

said polymer layer is held in intimate contact with an outer surface of said gear housing structure with no space therebetween.

10 31. The marine propulsion device of claim 30, wherein:

said polymer layer is chemically bonded to said gear housing structure.

32. The marine propulsion device of claim 31, wherein:

said polymer layer comprises a carbon filled polymer.